What is claimed is:

1. A method for fabricating a semiconductor epitaxial wafer having doped carbon, comprising the steps of:

providing a quantity of carbon within a quantity of silicon;

growing an ingot from the silicon containing carbon;

forming a silicon wafer having carbon by slicing the ingot to obtain a plurality of rough wafers and then surface-treating the sliced rough wafers; and

growing an epitaxial silicon layer on a surface of each silicon wafer having carbon.

2. The method of claim 1, wherein a concentration of carbon contained in the silicon is between 1×10^{14} and 5×10^{17} atoms/cm^3.

3. The method of claim 1, wherein the concentration of oxygen in the silicon wafer having carbon is between 8 and 13 parts per million atoms (ppma).

4. The method of claim 1, wherein the epitaxial silicon layer of the wafer has a thickness of between 0.5 and 5 microns.

5. The method of claim 1, wherein the epitaxial silicon layer is used as a device active region.

6. The method of claim 1, wherein a further step comprises mixing the carbon with the quantity of silicon and then melting the carbon together with [(a chunk) of] the silicon.

7. A method for fabricating a semiconductor epitaxial wafer having doped carbon, comprising the steps of:

mixing a quantity of carbon with a quantity of silicon and then melting together the quantities of carbon and silicon;

growing an ingot having carbon from the melted silicon containing carbon;

grinding the ingot having carbon so as to produce a flat surface and a notch;

slicing the ingot having carbon into a piece of silicon wafer;

polishing the piece of silicon wafer having carbon; and

growing an epitaxial silicon layer on a surface of the polished silicon wafer having carbon.

8. The method of claim 7, wherein a concentration of

carbon contained in the melted silicon is between 1×10^{14} and 5×10^{17} atoms/cm^3.

9. The method of claim 7, wherein the concentration of oxygen in the silicon wafer having carbon is between 8 and 13 parts per million atoms (ppma).

10. The method of claim 7, wherein the epitaxial silicon layer is formed to a thickness of between 0.5 and 5 microns.

11. The method of claim 7, wherein the epitaxial silicon layer is used as a device active region.

12. The method of claim 7, wherein the step of growing of the ingot having carbon is performed by a Czochralski method or a Floating Zone method.

13. The method of claim 7, wherein the polishing of the silicon wafer having carbon includes one process selected from the group of processes consisting of surface polishing, rough polishing, edge polishing, etching in an acid or alkali solution, thermal doner killing, and fine polishing.

14. A semiconductor epitaxial wafer, comprising:

a quantity of carbon contained within a quantity of silicon;

an ingot formed from the silicon containing carbon;

a silicon wafer having carbon obtained by slicing the ingot to obtain a plurality of rough wafers; and

an epitaxial silicon layer formed on a surface of each silicon wafer having carbon.

15. The semiconductor epitaxial wafer of claim 14, wherein a concentration of carbon contained in the silicon is between 1×10^{14} and 5×10^{17} atoms/cm^3.

16. The semiconductor epitaxial wafer of claim 14, wherein the concentration of oxygen in the silicon wafer is between 8 and 13 parts per million atoms (ppma).

17. The semiconductor epitaxial wafer of claim 14, wherein the epitaxial silicon layer of the wafer has a thickness of between 0.5 and 5 microns.

18. The semiconductor epitaxial wafer of claim 14, wherein the epitaxial silicon layer is used as a device active region.